

Before the
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

In the Matter of:)	
)	
Public Safety and Homeland Security)	PS Docket No. 10-168
Bureau Seeks Comment on Increasing)	
Public Safety Interoperability by)	
Promoting Competition for Public Safety)	
Communications Technologies)	

COMMENTS OF THE PROJECT 25 TECHNOLOGY INTEREST GROUP

The Project 25 Technology Interest Group (PTIG)¹ is a 501(c)(6) corporation, an organization of public safety practitioners, manufacturers, and other emergency response professionals formed to promote the success of *The Project 25 Standard* and to educate the public on the benefits that the standard offers. The PTIG vision is that Project 25 (P25) technology achieves the fullest potential for interoperability. PTIG believes interoperability is essential for serving the two-way radio communications needs of the public safety community.

The PTIG mission is to advance the design, manufacture, evolution, and effective use of technologies defined in the P25 standardization process. Most importantly, the mission of PTIG is to offer its membership the opportunity to participate directly in decision-making that will impact the future of critical communications systems being deployed for the continuing safety of our community's citizens.

¹ See www.project25.org

PTIG questions the Commission's apparent premise that within the Project 25 marketplace there is insufficient competition. We encourage the Commission to provide their basis for such a premise. An examination of the facts seems to indicate a different conclusion. Given the relatively small market opportunity when contrasting Public Safety with consumer and commercial opportunities, it is PTIG's view that a vibrant and competitive marketplace already exists for Project 25 equipment.

SUMMARY

The Project 25 Technology Interest Group respectfully submits the following comments in response to the Commission's inquiry regarding the state of competition in the public safety radio industry. PTIG urges the Commission to continue to fully explore all aspects of benefits of standardization among first responders.

DISCUSSION

I. What are the factors that affect the current state of competition in the provision of public safety communications equipment?

Competition exists when manufacturers sense a business opportunity. The decision for any manufacturer to participate in the Project 25 arena becomes a straight-forward business case decision - does that vendor believe that the revenue opportunities available in the marketplace justify the risk in making investments in human and capital resources necessary to develop, manufacture, bring to market, and maintain products designed to

serve that market opportunity? Such business-critical decisions are the basis of the American economic system.

The product life cycle of a public safety radio is typically ten to fifteen years. Various estimates place the population of the nation's first responders at 2 – 3 million. If handsets are changed out every ten years, the annual market opportunity approaches 200,000 to 300,000 units. These numbers are then further sub-divided across four disparate frequency bands and varying system architectures. Such numbers pale when compared to a commercial and consumer marketplace numbering in the hundreds of millions of units annually. The commercial and consumer marketplace may indulge in and use virtually throwaway technology, but the Public Safety users require fundamentally more reliable, durable, and secure technology with equipment designs intended to be fully operational in the harshest working environments.

Environmental factors also impact the ability of a manufacturer to provide effective public safety communications equipment. Recent developments in technology, changes in user requirements, changes in spectrum regulations, and modifications to previously published standards suites all impact go-to-market decisions. The Project 25 Steering Committee, through the Project 25 User Needs Subcommittee, and in coordination with the APCO Project 25 Interface Committee and the Telecommunications Industry Association (TIA), regularly focuses the standards development efforts on improving the existing standards as well as adopting new technologies as they become available.

An additional factor impacting competition is the variation within the vendor community. Some participants supply complete systems. Other vendors focus their expertise on specific system elements, such as subscriber equipment, or base stations, or network equipment, or software stacks. Project 25 systems currently support two air interfaces, with a third rapidly approaching. Supporting existing products and conducting research and development efforts consumes resources. Implementing a third protocol requires additional resources that may or may not be readily available to every organization. As user requirements continue to expand, manufacturers must constantly review their business cases, evaluating revenue opportunities, the associated costs of pursuing such opportunities, along with maintaining current business objectives. The Commission is reminded that simply passing a standard does not immediately bring that standard on line. Project 25 has specific voluntary guidelines in that regard, but it will typically take 18 to 24 months for industry to begin to implement standards changes.

II. Are there any additional barriers to additional manufacturers supplying network equipment to the public safety community for narrowband communications?

In providing equipment to the public safety community, manufacturers are required to expend significant research and development resources in developing public safety grade equipment. Technologies available to the general public may not be robust enough to work in the hostile environments or with the reliability required by public safety. Developing a public safety version of wireless technologies is typically more expensive than the “commercially” available non-public safety equipment.

Further, manufacturers must address additional requirements associated with migrating an agency from fifty or sixty years of traditional LMR operation into more spectrally-efficient narrower band channels. As agencies migrate, they must retain their communications capabilities because calls for service never stop. Thus, new equipment must be capable of both replicating years of analog functionality to support an orderly migration, while also providing new digital operation.

III. Are there any additional barriers to additional manufacturers supplying network equipment to the public safety community for broadband communications?

Wireless broadband communications is on the “bleeding edge”² of technology. The lack of finalized published standards negates a manufacturer’s ability to provide proven, reliable network equipment and solutions for public safety communications. The PSST (Public Safety Spectrum Trust Corporation) recognized that the *NPSTC 700 MHz Public Safety Broadband Taskforce Report and Recommendations*³ did not identify mission critical voice services, and requested NPSTC (National Public Safety Telecommunications Council) to re-engage the Broadband Working Group to do so. The most notable absent requirement (one that is vital for the vast majority of public safety users) is the ability to communicate peer-to-peer without the use of infrastructure.

IV. How would additional competition in the provision of public safety communications equipment improve narrowband or broadband interoperability?

² Bleeding Edge technology refers to technology that is so new, its reliability is not yet proven.

³ See http://www.npstc.org/documents/700_MHz_BBTF_Final_Report_0090904_v1_1.pdf

According to the SAFECOM Interoperability Continuum, there are a number of basic foundations of interoperability. Technology is one of those tenants. The most robust means of providing interoperability is through the use of standards such as Project 25. Project 25 has been designed specifically to enable interoperability and increase competition in the public safety communications marketplace. As of August 2010⁴, there are -

- Eleven manufacturers providing base station and repeater equipment,
- Fourteen manufactures providing mobile radio equipment,
- Thirteen manufacturers providing portable radio equipment,
- Seven manufacturers providing console equipment, and
- Eight manufacturers providing network solutions.

Requests for proposals today often segment infrastructure from subscriber equipment bids. Manufactures may offer bids on their own, or they might form alliances with other manufacturers to bid on regional and statewide systems. Large integrators have entered the market place, taking on full system responsibility. This leaves the bidding for subscriber equipment wide open to a growing number of bidders that choose to market Project 25 equipment products, expanding customer choice, and encouraging price competition.

⁴ *Project 25—A User's Perspective*, presented by Jim Downes, Project 25 Technology Interest Group chair, at the APCO Conference and Exhibition, Houston, Texas, August 3, 2010.

V. Conversely, what impact does the current state of competition in the provision of public safety communications equipment and devices have on interoperability?

Currently there are many manufacturers that provide public safety communications equipment. In some cases, the solutions are proprietary (non-standard) in nature, and by definition create roadblocks for interoperability in a mixed technology environment. There are however, a number of manufactures that offer Project 25 equipment that is designed to enhance interoperability for public safety communications. In today's environment, several vendors are providing equipment that has gone through the Project 25 Compliance Assessment Program⁵ to ensure radios are compatible with each other and with the infrastructures with which they have been implemented. These tests focus on the Project 25 Common Air Interface (P25 CAI), but will soon address other interfaces, features and functions within the P25 suite once those tests are approved and published.

Hundreds of Project 25 systems are being used across the United States today, operating in VHF, UHF, 700 MHz, and 800 MHz. Many more systems are in various stages of implementation or planning. Interoperability among public safety, Federal law enforcement, and Department of Defense systems is occurring on a daily basis. In particular, Alaska and Wyoming are examples of statewide systems operating in spectrum managed by both the FCC and the NTIA, supporting local, county, state, and

⁵ Department of Homeland Security, SAFECOM Program, Project 25 Compliance Assessment Program, <http://www.safecomprogram.gov/SAFECOM/currentprojects/project25cap/>.

federal users on single Project 25 backbones. These P25 systems and infrastructure support subscriber units and other equipment from multiple vendors and manufacturers.

With the promise of Federal grant funding, many users are beginning to adopt and implement Project 25 solutions. The grant funding, in part, has been a significant contributor to the increase in the number of manufacturers that are providing P25 equipment.

VI. Assuming additional competition would benefit public safety interoperability, what actions could the Commission take to improve competition in the provision of public safety communications equipment?

Perhaps one of the most significant roles the Commission could play in the world of interoperability is to mandate Project 25 for interoperable narrowband public safety communications, similar to the mandate for the 700 MHz narrowband interoperability channels. This action would ensure interoperability across all bands and at all levels of government and improve competition by focusing industry on one goal. Although P25 has been adopted by most federal agencies, a similar action by the National Telecommunications and Information Administration would ensure federal partners are on a similar track. The Department of Homeland Security has already set the course for standards by mandating P25 as a condition for obtaining federal public safety communications grant funding. In its 2010 Grant Guidance⁶, to enhance interoperability

⁶ Office of Emergency Communications: Fiscal Year 2010 SAFECOM Guidance for Federal Grant Programs.

and the alignment of State, local, and tribal investment with National goals, DHS has mandated that “*All new digital voice systems must be compliant with Project 25 (P25) suite of standards.*”

VII. What are the limitations of Project 25 in promoting narrowband public safety communications interoperability?

Until recently, there have been a number of limitations that Project 25 has been trying to overcome. First and foremost is the misconception that Project 25 is an obsolete standard. Project 25 is continuously being updated to incorporate new user requirements, technologies, and spectrum regulations. The PTIG, working with the Project 25 Steering Committee and the Telecommunications Industry Association (TIA), is educating the public safety community on the benefits of Project 25. The Project 25 standards of today represent the latest technology platforms available. The process to create the standards began before the Commission began formal action to move to narrowband technology. While Project 25 has a primary focus on narrowband technology, the Project 25 contributors and the PTIG organization members are fully aware of the potential for future enhancements, with potential complications, that would seek to integrate both narrowband and broadband technologies.

Secondly, there is a belief that Project 25 is controlled by a single manufacturer. Project 25 was established as a cooperative effort between the Project 25 Steering Committee and TIA. Originally in the process, the technologies that were chosen were provided by a few manufacturers. This was simply a reflection on the number of manufacturers that were participating in the process at the time. Within the last decade, the number of manufacturers that have participated in the process, and brought P25 product to the

market, has significantly increased. This includes providers of “end-to-end” systems, infrastructure and subscriber equipment, as well as control and console equipment.

VIII. Could open standards for public safety equipment increase competition?

If the goal is to increase public safety communications interoperability through increased competition, the only way to achieve that goal is through open standards such as Project 25. As previously mentioned, the publication of the Project 25 Standards and the implementation of products supporting these standards have significantly enhanced the competitive market environment. As older systems are replaced with new Project 25 Systems the requirement for legacy proprietary capabilities will decrease and minimize the need for “limited source acquisitions”.

IX. As the Commission considers requirements for the 700 MHz broadband public safety network, are there any requirements on public safety equipment or network operators that would increase competition in the provision of public safety equipment?

To date, the vast majority of the development in broadband has been commercially based services with very less regard for public safety requirements. Public safety users require the ability to use broadband technologies, but may do so at the cost of adopting proprietary, non-interoperable solutions without an established broadband standard. Public safety requirements and applications are only now being evaluated, and may change with further technology development and functionality.

CONCLUSION

The FCC should critically evaluate all policies concerning enhancing public safety communications; both in narrowband and broadband technologies. While broadband technologies may be “wave of the future”, legacy narrowband technologies are currently the only solution available to meet the complex mission requirements of public safety and Project 25 is the only user-driven interoperability standard that meets the needs of the emergency response safety community today. The fact that a relatively small but growing number of manufacturers compete for this market is only an indication of the size of the market. Standardization serves to increase competition, not limit it.

Respectfully Submitted,

PROJECT 25 TECHNOLOGY INTEREST GROUP

Basil (Bill) Pagones

September 18, 2010

Executive Director

Email: director@project25.org

Website: www.project25.org